

Course Title:	End year project
Course Code:	CSE453/1
Program:	Computer science Engineering
Department:	Computer Engineering
Course coordinator:	Dr. Rim Afdhal
Institution:	Private Higher School of Engineers of Gafsa (ESIP)

A. Course Identification

1. Credit hours: 3 (1.5-1.5-0)	
2. Course type	
a. College <input type="checkbox"/>	Department <input checked="" type="checkbox"/>
b. Fundamental <input checked="" type="checkbox"/>	Transversal <input type="checkbox"/>
	Others <input type="checkbox"/>
	Optional <input type="checkbox"/>
3. Level/year at which this course is offered: 3.1/3	
4. Pre-requisites for this course (if any):	

1. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Self-study	Total workload
1	Traditional classroom	33	78
2	Blended	-----		
3	E-learning		
4	Distance learning		
5	Other ()		

2. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	-
2	Laboratory/Studio	-
3	Tutorial	-
4	Others (specify)	45
	Total	45

B. Course Objectives and Learning Outcomes

Course Description

This course serves as a comprehensive capstone experience, enabling students to integrate and practically apply knowledge acquired throughout their studies. Students will develop a concrete, foundational programming project, consolidating their academic skills through application in realistic contexts.

Course Main Objective

- ✓ Apply theoretical knowledge to design and implement a practical programming project.
- ✓ Enhance analytical and problem-solving skills by managing complex programming challenges.
- ✓ Develop strong presentation and communication skills through clear and convincing project presentations.
- ✓ Master the creation of detailed project documentation and effectively address design-related programming challenges.

1. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	Demonstrate an integrated and advanced understanding of computer science theories, principles, and practices through practical application in the project.	PLO.K1/ PLO.K2
2	Skills	
2.1	Analyze and solve complex computational problems by designing efficient and robust algorithms as part of the project.	PLO.S1
2.3	Effectively communicate complex technical concepts and present project outcomes clearly and convincingly in oral and written forms.	PLO.S2
2.4	Demonstrate organizational, teamwork, and project management skills to meet real-life requirements and constraints.	PLO.S3
2.5	Analyze, design, and implement a programming project while effectively managing changing requirements, budget constraints, and timelines.	PLO.S7

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C. Course Content

No	List of Topics	Contact Hours
1	Project 1. Design and development of a blockchain-based online training and certification application	
2	Project 2. SmartPlate : Your Personalized Meal Companion	
3	Project 3. Dynamic data visualization with POWER BI	
4	Project 4. Gesture Recognition using Convolutional Neural Networks	
5	Project 5. application dedicated to women's well-being	
6	Project 6. Design and development of website dedicated to Tunisian camping	
Total		45

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
PLO.K1/ PLO.K2	Demonstrate an integrated and advanced understanding of computer science theories, principles, and practices through practical application in the project.	<ul style="list-style-type: none"> Presentations and Discussions Supervised Workshops Project-Based Learning 	<ul style="list-style-type: none"> Final Oral Presentation and Defense <ul style="list-style-type: none"> Project Implementation Project Documentation
	Skills		
PLO.S1	Analyze and solve complex computational problems by designing efficient and robust algorithms as part of the project.	<ul style="list-style-type: none"> Presentations and Discussions Supervised Workshops Project-Based Learning 	<ul style="list-style-type: none"> Final Oral Presentation and Defense <ul style="list-style-type: none"> Project Implementation Project Documentation
PLO.S2	Effectively communicate complex technical concepts and present project outcomes clearly and convincingly in .oral and written forms		
PLO.S3	Demonstrate organizational, teamwork, and project management skills to meet real-life requirements and constraints.		
PLO.S7	Analyze, design, and implement a programming project while effectively managing changing requirements, budget constraints, and timelines.		

2. Assessment Tasks for Students

	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical Work (written or oral)	Weekly	00%
2	Quizzes, Homework assignments	Random	00%
3	Final Exam	11	100%

E. Student Academic Counselling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- Office hours
- Blackboard interface
- Apply projects otherwise.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	<ol style="list-style-type: none"> 1. Sommerville, I. (2015). <i>Software Engineering</i> (10th Edition). Pearson Education 2. David William Brown (2001) <i>An Introduction to Object-Oriented Analysis: Objects and UML in Plain English</i>, 2nd Edition
Essential References Materials	NA
Electronic Materials	<ol style="list-style-type: none"> 1. Access to IEEE Xplore, ACM Digital Library 2. GitHub or GitLab 3. Integrated Development Environments (IDEs) like IntelliJ IDEA, Eclipse, or Visual Studio Code.
Other Learning Materials	NA

3. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	classroom board software ...
Technology Resources (AV, data show, Smart Board, software, etc.)	data show;

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment.	Students, course coordinator, Alumni, Employers	Direct/Indirect
Extent of achievement of course learning outcomes.	Faculty, Program Leaders, quality department	Direct
Quality of Learning resources	Faculty, Program Leaders,	Direct, Indirect
Teaching and learning quality and effectiveness.	Students, Faculty Program Leaders,	Direct, Indirect

H. Specification Approval Data

Council / Committee	Computer Engineering Council
Date	07/02/2024

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